

IN THE CLAIMS

Please cancel claims 1-17 and add the following new claims 18-50. A copy of all pending claims follows with each claim including a status identifier pursuant to 37 CFR 1.121.

Claims 1-17 (Cancelled)

18. (New) A method for generating at least one of process heat and electrical energy for a machine for at least one of production and finishing of a fibrous web, comprising:
generating from waste products resulting during the at least one of production and finishing of a fibrous web a hydrogen-rich gas having a highest possible proportion of hydrogen; and
utilizing the hydrogen-rich gas for generating the at least one of process heat and electrical energy.
19. (New) The method according to claim 18, wherein at least one of bark, fibers, and edge cuttings are utilized as waste products.
20. (New) The method according to claim 18, further comprising utilizing at least one of:
i) the waste products which are first transformed into methanol; and
ii) a DMFC (Direct Methanol Fuel Cell).
21. (New) The method according to claim 18, further comprising first feeding the waste products utilized to a reformer.
22. (New) The method according to claim 21, further comprising transforming hydrogen

carbons of the waste products utilized into a hydrogen-rich and a carbon monoxide-rich gas by the reformer through one of, autothermic reforming, partial oxidation, and vapor reforming.

23. (New) The method according to claim 21, wherein the reformer is followed by a shift stage for transforming carbon monoxide into another hydrogen-rich gas.

24. (New) The method according to claim 23, wherein one of the reformer or the shift stage is followed by at least one more process stage for further reduction of carbon monoxide.

25. (New) The method according to claim 24, wherein the reformer is followed by a shift stage for pressure swing adsorption as a further process stage.

26. (New) The method according to claim 24, wherein the reformer is followed by a shift stage for selective oxidation as a further process stage.

27. (New) The method according to claim 18, further comprising feeding to a reformer at least one of additional hydrogen carbons and additional H₂ when the waste products resulting during at least one of production and finishing of the fibrous web are insufficient to meet an energy requirement.

28. (New) The method according to claim 27, further comprising supplying the additional hydrogen carbons to the reformer in the form of at least one of natural gas, biomass, and wood chips.

29. (New) The method according to claim 18, further comprising generating the at least one of process heat and electrical energy at a point of the machine at which the at least one of the process heat and electrical energy is required.
30. (New) The method according to claim 29, further comprising generating the at least one of process heat and electrical energy at least one of on, in or near a particular unit of the machine which is to be one of heated and supplied with electrical energy.
31. (New) The method according to claim 18, further comprising generating the least one of process heat and electrical energy by at least one fuel cell from at least one of an acquired hydrogen-rich gas and additional hydrogen taken from at least one of a grid or tank.
32. (New) The method according to claim 18, further comprising generating the process heat by combusting at least one of an acquired hydrogen, methanol and additional hydrogen taken from at least one of a grid and tank.
33. (New) The method of claim 18, wherein the fibrous web is one of paper web and paperboard web.
34. (New) An apparatus for generating at least one of process heat and electrical energy for a machine for at least one of production and finishing of a fibrous web, wherein the apparatus is configured to provide a hydrogen-rich gas having a highest possible proportion of hydrogen generated from waste products resulting during at least one of the production and finishing of the fibrous web, and the apparatus is configured to

utilize the hydrogen-rich gas for generating at least one of the process heat and electrical energy.

35. (New) The apparatus of claim 34, wherein the fibrous web is one of paper web and paperboard web and the machine is configured for at least one of the production and finishing of the one of paper web and paperboard web.

36. (New) The apparatus of claim 34, wherein at least one of bark, fibers, and edge cuttings are utilized as waste products and the apparatus is configured to provide the hydrogen-rich gas generated from at least one of the bark, fibers, and edge cuttings.

37. (New) The apparatus of claim 34, wherein at least one of:

i) the waste products utilized are first transformed into methanol, and

ii) a DMFC (Direct Methanol Fuel Cell) is utilized, and

the apparatus is configured to utilize at least one of the methanol and DMFC.

38. (New) The apparatus of claim 34, wherein the apparatus comprises a reformer and the reformer is configured to be first fed with the waste products.

39. (New) The apparatus of claim 38, wherein the reformer is configured to transform hydrogen carbons of the waste products into a hydrogen-rich and a carbon monoxide-rich gas through one of, autothermic reforming, partial oxidation, and vapor reforming.

40. (New) The apparatus of claim 38, wherein the apparatus comprises a shift stage for

transforming carbon monoxide into another hydrogen-rich gas and is followed by the reformer.

41. (New) The apparatus of claim 38, wherein the apparatus comprises at least one more process stage for further reduction of carbon monoxide and follows one of the reformer or a shift stage.
42. (New) The apparatus of claim 41, wherein the reformer is followed by the shift stage for one of, (a) pressure swing adsorption and (b) selective oxidation, as a further process stage.
43. (New) The apparatus of claim 34, wherein the apparatus is configured to feed at least one of additional hydrogen carbons and additional H₂ to a reformer when the waste products resulting during at least one of the production and finishing of the fibrous web are insufficient to meet an energy requirement.
44. (New) The apparatus of claim 43, wherein the reformer is configured to be supplied with additional hydrogen carbons in the form of at least one of natural gas, biomass, and wood chips.
45. (New) The apparatus of claim 34, wherein the apparatus is configured to generate the at least one of process heat and electrical energy at a point of the machine at which the at least one of the process heat and electrical energy is required.
46. (New) The apparatus of claim 45, wherein the apparatus is configured to generate the at least one of process heat and electrical energy at least one of on, in or near a

particular unit of the machine that is to be one of heated or supplied with electrical energy.

47. (New) The apparatus of claim 34, wherein the apparatus comprises at least one fuel cell and is configured to generate the at least one of process heat and electrical energy by at least one fuel cell from at least one of an acquired hydrogen-rich gas and additional hydrogen taken from at least one of a grid or tank.
48. (New) The apparatus of claim 34, wherein the apparatus is configured to generate the process heat by combusting at least one of an acquired hydrogen, methanol and additional hydrogen taken from at least one of a grid and tank.
49. (New) A method for generating at least one of process heat and electrical energy for a machine for at least one of production and finishing of a fibrous web, comprising: generating a hydrogen-rich gas having a highest possible proportion of hydrogen from waste products resulting during the at least one of production and finishing of a fibrous web, the hydrogen-rich gas being utilized for generating at least one of a necessary process heat and a necessary electrical energy, and hydrogen carbons of the waste products utilized being transformed into a hydrogen-rich and a carbon monoxide-rich gas by a reformer through at least one of autothermic reforming, partial oxidation, and vapor reforming.
50. (New) An apparatus for generating at least one of process heat and electrical energy for a machine for at least one of production and finishing of a fibrous web, wherein the apparatus is configured to provide a hydrogen-rich gas having a highest possible proportion of hydrogen generated from waste products resulting during the

at least one of production and finishing of a fibrous web,

the apparatus is configured to utilize the hydrogen-rich gas for generating at least one of a necessary process heat and a necessary electrical energy,

the apparatus comprises a reformer and the reformer is configured to be first fed with the waste products, and

the reformer is configured to transform hydrogen carbons of the waste products into a hydrogen-rich and a carbon monoxide-rich gas through at least one of autothermic reforming, partial oxidation, and vapor reforming.